

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

MEMORANDUM ORDER

At Wilmington, this 22nd day of December 2022:

The Court heard argument about the disputed claim terms of U.S. Patent No. 10,355,975 (“the ’975 Patent”) on November 30, 2022.¹ (D.I. 172). As announced at the hearing, IT IS HEREBY ORDERED that the disputed claim terms of the ’975 Patent are construed as follows:

1. “static priority routing policy” means “a routing policy that assigns unchanging relative priorities.” (claims 1, 2, 10, 13 and 14);
2. “optimization module” is a means-plus-function term subject to 35 U.S.C. § 112(f), the claimed function is “determine optimal function assignment configurations for groups of tiles, and assign two or more functions, which communicate at least unilaterally more frequently with one another than with other functions, to groups of adjacent tiles based on an optimal function assignment configuration determination,” and the corresponding structures are: the flowcharts of steps for optimization in Figures 7A and 7B as explained in the corresponding text and equivalents thereof. (claims 1 and 13);
3. “determine optimal function assignment configurations for groups of tiles” is not indefinite and means “determine whether to assign a function to a particular square or linear configuration of tiles.” (claims 1 and 13);
4. “based on an optimal function assignment configuration determination” is not indefinite and means “based on a determination of whether to assign a function to a particular square or linear configuration.” (claims 1 and 13);

¹ The parties presented no agreed-upon constructions. (See D.I. 57 at 3).

5. “when the function executes optimally” is not indefinite and means “when the function executes best based on a metric relevant to a given criteria.” (claims 1 and 13); and
6. “destination address” means “an identifier corresponding to a unique location within the system,” with the clarification that the address can change and the additional clarification that simply pointing in a direction (e.g., north, south, east or west) without a location in mind is not a destination address. (claims 1, 9, 13 and 17).

The parties briefed the issues (D.I. 64 & 161) and submitted appendices containing intrinsic and extrinsic evidence. (D.I. 65 & 162).² The Court carefully reviewed all submissions in connection with the parties’ contentions regarding the disputed claim terms, heard oral argument (see D.I. 172) and applied the legal standards below in reaching its decision.

Upon consideration of Defendant’s Motion to Stay Pending *Inter Partes* Review (D.I. 154), IT IS HEREBY FURTHER ORDERED that, for the reasons stated at the hearing, Defendant’s Motion is DENIED.³ (See D.I. 172 at 96:11-97:5).

I. LEGAL STANDARDS

A. Claim Construction

“[T]he ultimate question of the proper construction of the patent [is] a question of law,” although subsidiary fact-finding is sometimes necessary. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 325 (2015). “[T]he words of a claim are generally given their ordinary and customary meaning [which is] the meaning that the term would have to a person of ordinary skill

² The original briefing covered the disputed constructions for terms 1 and 6 and the indefiniteness issue for terms 2-5. (D.I. 64). During a teleconference with the parties on May 13, 2022, the Court requested supplemental briefing on constructions for terms 2-5 in the case that the Court found the terms definite. (D.I. 171 at 10:8-19). The parties submitted a supplemental joint claim construction brief on November 9, 2022. (See D.I. 161).

³ As discussed at the hearing, the issue will be reconsidered if the parties stipulate to a stay. (D.I. 172 at 105:14-23).

in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc) (internal citations and quotation marks omitted). Although “the claims themselves provide substantial guidance as to the meaning of particular claim terms,” the context of the surrounding words of the claim must also be considered. *Id.* at 1314. “[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Id.* at 1321 (internal quotation marks omitted).

The patent specification “is always highly relevant to the claim construction analysis . . . [as] it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). It is also possible that “the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. “Even when the specification describes only a single embodiment, [however,] the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal quotation marks omitted) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)).

In addition to the specification, a court “should also consider the patent’s prosecution history, if it is in evidence.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). The prosecution history, which is “intrinsic evidence, . . . consists of the complete record of the proceedings before the PTO [Patent and Trademark Office] and includes the prior art cited during the examination of the patent.” *Phillips*, 415 F.3d at 1317. “[T]he prosecution history can often inform the meaning of the claim language

by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.*

In some cases, courts “will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva*, 574 U.S. at 331. Extrinsic evidence “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980. Expert testimony can be useful “to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318. Nonetheless, courts must not lose sight of the fact that “expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence.” *Id.* Overall, although extrinsic evidence “may be useful to the court,” it is “less reliable” than intrinsic evidence, and its consideration “is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.” *Id.* at 1318-19. Where the intrinsic record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999) (citing *Vitronics*, 90 F.3d at 1583).

B. Indefiniteness

“The primary purpose of the definiteness requirement is to ensure that the claims are written in such a way that they give notice to the public of the extent of the legal protection afforded by the patent, so that interested members of the public, *e.g.*, competitors of the patent owner, can

determine whether or not they infringe.” *All Dental Prodx, LLC v. Advantage Dental Prods., Inc.*, 309 F.3d 774, 779-80 (Fed. Cir. 2002) (citing *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 28-29 (1997)). Put another way, “[a] patent holder should know what he owns, and the public should know what he does not.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 731 (2002).

A patent claim is indefinite if, “viewed in light of the specification and prosecution history, [it fails to] inform those skilled in the art about the scope of the invention with reasonable certainty.” *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 910 (2014). A claim may be indefinite if the patent does not convey with reasonable certainty how to measure a claimed feature. *See Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1341 (Fed. Cir. 2015). But “[i]f such an understanding of how to measure the claimed [feature] was within the scope of knowledge possessed by one of ordinary skill in the art, there is no requirement for the specification to identify a particular measurement technique.” *Ethicon Endo-Surgery, Inc. v. Covidien, Inc.*, 796 F.3d 1312, 1319 (Fed. Cir. 2015).

Like claim construction, definiteness is a question of law, but the Court must sometimes render factual findings based on extrinsic evidence to resolve the ultimate issue of definiteness. *See, e.g., Sonix Tech. Co. v. Publications Int'l, Ltd.*, 844 F.3d 1370, 1376 (Fed. Cir. 2017); *see also Teva*, 574 U.S. at 334-36. “Any fact critical to a holding on indefiniteness . . . must be proven by the challenger by clear and convincing evidence.” *Intel Corp. v. VIA Techs., Inc.*, 319 F.3d 1357, 1366 (Fed. Cir. 2003); *see also Tech. Licensing Corp. v. Videotek, Inc.*, 545 F.3d 1316, 1338 (Fed. Cir. 2008).

II. THE COURT'S RULING

The Court's ruling regarding the disputed claim terms of the '975 Patent was announced during the Markman hearing on November 30, 2022 as follows:

At issue, there are six disputed claim terms in one patent, U.S. Patent No. 10,355,975 ("the '975 Patent"). I have given you my rulings on four of the terms and I am prepared to rule on the remaining disputes. I will not be issuing a written opinion, but I will issue an order stating my rulings. I want to emphasize before I announce my decisions that although I am not issuing a written opinion, we have followed a full and thorough process before making the decisions I am about to state. I have reviewed the patent and all the evidence submitted by the parties. There was full briefing on each of the disputed terms and we had argument today. All of that has been carefully considered.

As to my rulings, I am not going to read into the record my understanding of claim construction law. I have a legal standard section that I have included in earlier opinions, including somewhat recently in [*CAO Lighting, Inc. v. General Elec. Co.*, C.A. No. 20-681]. I incorporate that law and adopt it into my ruling today and will also set it out in the order that I issue.

The first term is "static priority routing policy" in claims 1, 2, 10, 13 and 14 of the Patent. The Plaintiff proposes the construction, "a routing policy that assigns unchanging relative priorities." Defendant proposes the construction, "a routing policy that assigns unchanging relative priorities to input ports of a router." The crux of the dispute is whether the term is limited to applying to input ports of a router, or whether priorities may be assigned to other elements – such as data packets. I am going to adopt Plaintiff's construction.

Plaintiff argues that Defendant's proposed construction improperly imports limitations from the specification into the claims absent any clear indication that the patentee intended to so limit the claims. Defendant argues, in part, that the term should be limited because all the examples in the specification implement a static priority routing policy that assigns priorities to input ports of a router. Defendant, however, cites to nothing in the patent or the prosecution history that clearly indicates that the patentee intended to limit the claims as such. In addition, as Plaintiff points out, the requirement that the routing policy assign priorities to input ports of

a router is recited in claim 10, which is dependent on claim 1.^[4] In claim 10, the limitation in dispute is the only limitation added to claim 1. Given the principles of claim differentiation, there is thus a presumption that this limitation is not present in the independent claim.^[5]

Defendant, however, argues that in the context of this patent, “static priority routing policy” cannot have any broader plain meaning. Defendant’s argument relies on its expert, Dr. Colwell, who opines that – in the context of this patent – a POSA would understand the routing policy to assign relative priorities *only* to input ports of a router because the policy is used to resolve a “traffic condition” in which two or more packets arrive simultaneously seeking the same output port and the only way to “guarantee” resolution of this type of traffic condition is to assign the unchanging priority levels to the input ports of the router.^[6] Dr. Colwell opines that if the routing policy were to assign priorities to, for example, types of packets instead, this “would require an additional level of dynamic prioritization, such that the relative priorities *do* change under certain circumstances” and are thus not “static” as required by the claim.^[7]

Dr. Colwell’s opinion rests on the idea that the routing policy must “guarantee” resolution of this type of traffic condition. Defendant, however, has failed to show that the claims require that the policy guarantee resolution of this type of traffic condition. In addition, Dr. Colwell’s opinion relies on the assertion that if “an additional level of prioritization” is required then the relative priorities become “dynamic” rather than “static.” Defendant, however, fails to explain why having an additional level of prioritization automatically renders the priority levels dynamic rather than static under the patent.

Furthermore, Plaintiff’s expert, Dr. Horst, states that a POSA would not understand the term to be limited as Defendant proposes. Dr. Horst states that “the simplest of static priority routing policies

⁴ (’975 Patent at 29:41-43).

⁵ *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc) (“[T]he presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.”).

⁶ (D.I. 65, Ex. 21 ¶¶ 34-39).

⁷ (*Id.* ¶ 38).

known to a [POSA] are those that always give priority to a particular class or type of packet.”^[8] In addition, Dr. Horst explains that unchanging priorities may be assigned based on time of arrival or by using some sort of fixed identifier such as a color.^[9] I credit this explanation.

In sum, given the lack of any clear indication in the patent or prosecution history that the inventors intended to limit the term as well as Plaintiff’s expert’s opinion that a POSA would understand that the term could apply to elements other than input ports of a router, I find that Defendant has failed to rebut the presumption of claim differentiation and am not persuaded that the term should be limited to applying only to input ports of a router.

The second term is “optimization module” in claims 1 and 13 of the Patent. Plaintiff argues that optimization module is not a means-plus-function term governed by § 112(f), and if it is, it is not indefinite. Defendant argues the term is covered by § 112(f) and that it is indefinite because it lacks a corresponding structure. I find that the term is a means-plus-function term that falls under § 112(f). However, Defendant has failed to put forth clear and convincing evidence that the term is indefinite. And as I will state in a minute, I think there is corresponding structure in the specification.

The parties do not dispute that the claims at issue do not use the word “means” and therefore there is a presumption that § 112(f) does not apply.^[10]

Plaintiff argues that Defendant cannot overcome this presumption because the claims recite sufficient structures for performing the optimization. Specifically, Plaintiff points to the square and linear “configurations” of “tiles.”^[11] The claims recite that the optimization module is “configured to: determine optimal function assignment configurations for groups of tiles” and “assign two or more functions . . . to groups of adjacent tiles based on an optimal function assignment configuration.”^[12] Plaintiff further

⁸ (D.I 65, Ex. 26 ¶ 15).

⁹ (*Id.* ¶¶ 16-18).

¹⁰ *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1007 (Fed. Cir. 2018).

¹¹ (’975 Patent at 28:51-67).

¹² (*Id.*).

argues that the specification discloses a “multi-core microprocessor chip.”^[13] The specification states that the microprocessor “may include a set of tiles arranged in a grid configuration” and explains that “execution of different configurations of a set of functions may be simulated” on the microprocessor chip “or a software model thereof.”^[14]

Although the specification provides context for the role that the tiles can play in the optimization process, there is nothing in the claim that requires that the simulation referenced in the specification (running simulations on chips) occur. So, I think that Defendant has sufficiently rebutted the presumption that § 112(f) does not apply. The term “optimization module” does not provide any indication of structure. Rather, the term “optimization” merely describes the function of the module. The Federal Circuit has held that module “is a well-known nonce word that can operate as a substitute for ‘means’” and “is simply a generic description for software or hardware that performs a specified function.”^[15] Further, the claim language recites merely functional language (e.g., the optimization module is “configured to: determine optimal function assignment” and “assign two or more functions”).^[16]

Although I note that the Examiner never raised § 112(f) issues with respect to this term, that is not dispositive. The Examiner did find that the term in a related patent was subject to § 112(f).^[17]

“Optimization module” thus requires a corresponding structure in the specification. In cases of computer-implemented inventions, the corresponding structure typically takes the form of an algorithm.^[18] The algorithm must provide some explanation of how the claim term performs the claimed function.^[19] A patentee

¹³ (E.g., *id.* at 17:57-62).

¹⁴ (*Id.* at 17:60-65).

¹⁵ *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350 (Fed. Cir 2015); *see also Rain Computing, Inc. v. Samsung Elecs. Am., Inc.*, 989 F.3d 1002, 1006 (Fed Cir. 2021).

¹⁶ (’975 Patent at 28:51-67).

¹⁷ (D.I. 65, Ex. 22 at 6).

¹⁸ *See Williamson*, 792 F.3d at 1352.

¹⁹ *Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1384 (Fed. Cir. 2009).

may express an algorithm “in any understandable terms including as a mathematical formula, in prose, or as a flow chart.”^[20] Here, Plaintiff points to the flowcharts of steps for optimization in Figures 7A and 7B and the corresponding text in the specification.^[21] I agree with Plaintiff that these two charts put in words how the optimization module performs the determining and assigning functions in the claim[s].

So, I will construe “optimization module” as a term subject to § 112(f). I will adopt the function proposed by Defendant, *i.e.*, to “determine optimal function assignment configurations for groups of tiles, and assign two or more functions, which communicate at least unilaterally more frequently with one another than with other functions, to groups of adjacent tiles based on an optimal function assignment configuration determination.” And the corresponding structures are the flowcharts of steps for optimization in Figures 7A and 7B as explained in the corresponding text and equivalents thereof.^[22]

The third, fourth, and fifth terms are the “optimal” terms in claims 1 and 13. I have already told you that I am going to construe these terms as Plaintiff proposes with a tweak. That is that term 3 means “determine whether to assign a function to a particular square or linear configuration of tiles.” Term 4 means “based on a determination of whether to assign a function to a particular square or linear configuration.” And term 5 means “when the function executes best based on a metric relevant to a given criteria,” which Defendant does not object to if the term is not indefinite.

I have found that Defendant has not proven indefiniteness by clear and convincing evidence at this point, but I will consider the issues further if appropriate after expert discovery, as I’ve already discussed.

The sixth term is “destination address” in claims 1, 9, 13 and 17 of the Patent. We came to an agreement on this term during the hearing that it means “an identifier corresponding to a unique

²⁰ *Typhoon Touch Techs., Inc. v. Dell, Inc.*, 659 F.3d 1376, 1385 (Fed. Cir. 2011).

²¹ (’975 Patent at 18:26-20:4).

²² Defendant argued that the flowcharts were insufficient corresponding structures because they do not include the specific tile configurations recited in the wherein clause of the claim. The Court, however, has adopted Defendant’s proposed function which does not include that claim language.

location within the system" with the clarification that the address can change and the additional clarification that simply pointing in a direction, north, south, east or west, without a location in mind is not a destination address.^[23]

(D.I. 172 at 97:11-105:2).



The Honorable Maryellen Noreika
United States District Judge

²³ (D.I 172 at 94:11-96:4).